A No Minimum Length Limit, 50-fish Daily Bag Limit Proposal (no more than 5 fish ≥ 30 inches) for Blue and Channel Catfish at Texas-Louisiana Border Waters

Toledo Bend Reservoir
(Newton, Sabine, and Shelby counties, Texas; Vernon, Sabine, and Desoto parishes, Louisiana)

Caddo Lake
(Harrison and Marion counties, Texas; Caddo Parish, Louisiana)

Lower Sabine River
(Newton and Orange counties, Texas; Vernon, Beauregard, Calcasieu parishes, Louisiana)

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November 2013

Proposal

Current harvest regulations for blue and channel catfish consist of no minimum length limit and a 50-fish daily bag limit in any combination, of which no more than five blue or channel catfish ≥ 20 inches TL may be retained. Regulations would be changed to no minimum length limit and a 50-fish daily bag limit in any combination, of which no more than five blue or channel catfish ≥ 30 inches TL may be retained.

Introduction

The current harvest regulation was implemented on all border waters on September 1, 2011 by Texas Parks and Wildlife Department (TPWD) and Louisiana Department of Wildlife and Fisheries (LDWF). Caddo Lake and the lower Sabine River are included in this proposal to maintain standardization of harvest regulations, but the primary focus is the blue catfish population and fishery at Toledo Bend Reservoir. Both Caddo Lake and the lower Sabine River have catfish populations, but the fisheries are relatively minor compared to angler utilization at Toledo Bend Reservoir.

Toledo Bend Reservoir is a 162,476-acre impoundment of the Sabine River in Newton, Sabine, and Shelby counties, southeast Texas; and Vernon, Sabine, and Desoto parishes, southwest Louisiana. The Sabine River Authority constructed the reservoir in 1966 for generation of hydroelectric power, municipal, industrial, and agricultural water supply, and recreational use. Toledo Bend Reservoir currently supports an abundant blue catfish population with stable recruitment and a popular catfish fishery (primarily passive gear anglers), and anglers routinely catch fish ≥ 20 pounds (≥ 35 inches).

Catfishes are the second most sought-after species group in Texas (Hunt et al. 2012) and are also popular among anglers in Louisiana. Texas catfish anglers vary in their desires for fishing opportunities. Most are motivated by consumptive values, but others desire opportunities to catch large fish (Hutt et al. 2013). Restricting potential harvest of catfish > 20 inches (i.e., > 3 pounds) was intended to prevent overharvest of larger, more recreationally-valuable blue catfish, and to remain consistent with similar regulation proposals for other Texas reservoirs. The 50-fish bag limit was intended to satisfy angler harvest desires. However, public complaints from Toledo Bend Reservoir anglers quickly followed, as anglers suggested that this regulation was too restrictive (i.e., high proportion of passive gear catch were fish ≥ 20 inches). Within six months, a petition opposing the current regulation at Toledo Bend Reservoir included approximately 800 signatures. Although the annual passive gear harvest is likely considerable, neither agency had any data prior to this investigation because these anglers are rarely encountered during routine creel surveys.

Our primary objectives were to examine the current status of 1) the blue catfish population, 2) the passive gear catfish fishery, and 3) angler opinion relative to both the current and proposed harvest regulations at Toledo Bend Reservoir.

Methods

Both TPWD and LDWF monitor catfish populations during winter months at Toledo Bend Reservoir with standardized monofilament gill nets. Data from the most recent TPWD (2008, 2010, and 2012) and LDWF surveys (2009 – 2013, including Caddo Lake) are presented and discussed below.

Both agencies also examined the passive gear catfish fishery at Toledo Bend Reservoir. During April and May of 2012 and 2013, TPWD creel clerks interviewed anglers at Bill's Landing, a popular access point for catfish anglers. Anglers/party, total hooks fished, total catfish catch, and total lengths of harvested fish were recorded. During October 2012 – January 2013, the LDWF sampled with trotlines for three or four days each month at Toledo Bend Reservoir (eight trotlines/day) and Caddo Lake (three trotlines/day). Water depth at each station ranged from 6 to 30 feet. Each station was located in standing timber. Each line was suspended at a depth of 6 feet and included 50 hooks on 12-inch stages spaced three feet apart and baited with cut fish. Trotlines were set on Monday and checked each day shortly after sunrise. The lines were re-baited daily as necessary and retrieved on Thursday or Friday. Lengths and weights were recorded for all captured fish, and catch rate was calculated as the number of catfish captured per trotline set.

The TPWD also conducted an angler opinion survey regarding both the current and proposed harvest regulations (Appendix A) concomitantly with the creel survey described above. Toledo Bend Reservoir anglers were asked to provide the number of catfishing trips taken during the previous 12 months, average number of hooks fished per day, fishing preferences (i.e., catch either large numbers or trophy catfish) and current harvest practices. Specifically, anglers were asked if they supported or opposed the current "only 5 blue or channel catfish > 20 inches" portion of the regulation. If they opposed, anglers were asked which of these two options they preferred: 1) keep the 5-fish bag limit, but increase the length to 30 inches, and 2) keep the 20-inch length limit, but increase the daily bag limit above 20 inches to 10 fish. Anglers were also asked if they supported or opposed the current 50-fish daily bag limit.

Results and Discussion

Gill net data from both TPWD and LDWF indicate that blue catfish population abundance is relatively high and recruitment is stable at Toledo Bend Reservoir. Gill net catch rates from TPWD surveys were relatively high and similar in 2010 (11.9/nn) and 2012 (10.7/nn), and fish > 30 inches were caught in each of these survey years (Figure 1). Blue catfish were in good condition as W_r ranged from 82 to 118, indicating adequate prey availability. Similarly, results from LDWF gill net sampling suggest that a substantial number of blue catfish are present and available for harvest, as 51% of the total catch exceeded 20 inches (Figure 2). At Caddo Lake, although TPWD gill net sampling indicates that few blue catfish are present in Texas waters (i.e., only one blue catfish was collected during the last three survey years), LDWF data suggest that the

blue catfish population is relatively abundant, with 92% of fish ≥ 20 inches and 23% ≥ 30 inches (Figure 5).

The TPWD creel survey resulted in 37 interviews and included a total blue catfish catch of 1,230 fish, with 46% ≥ 20 inches and 6% ≥ 30 inches (Figure 3). Average party size was 2.1 anglers, average daily catch rate was 20.1 fish/angler (range = 4.0 – 54.0), average catch of fish ≥ 20 inches was 9.4 fish/angler (range = 1.5 – 49.0), and average catch of fish ≥ 30 inches was 2.8 fish/angler (range = 0.0 – 6.0). Compliance with the current regulation appears low. A total of 59% of angling parties (N = 22) caught more than the daily bag of 5 fish/person ≥ 20 inches, and all were in violation. Few fish were released (8% of total catch) and nearly all were unrelated to the current regulation, resulted from self-imposed harvest limits, and were typically < 14 inches or > 35 inches (i.e., either too small or large for consumption).

Results from LDWF trotline sampling at Toledo Bend Reservoir (N = 106 trotline sets and 221 blue catfish) were similar to those obtained from Texas anglers, as 50% of the LDWF catch was ≥ 20 inches and 6% ≥ 30 inches (Figure 4). At Caddo Lake, 85% of the blue catfish collected with trotlines (N = 24 trotline sets and 41 blue catfish) were ≥ 20 inches and 17% were ≥ 30 inches (Figure 6).

The TPWD angler opinion survey at Toledo Bend Reservoir (N = 66 anglers) indicated that 89% opposed the “no more than five blue or channel catfish ≥ 20 inches” portion of the current regulation and only 3% supported it. Of those opposing, 91% favored a 5-fish bag limit but wanted the length limit increased to ≥ 30 inches, while 9% supported the current length limit of ≥ 20 inches and a bag limit increase to 10 fish. Relative to the overall 50-fish daily bag limit, 71% supported it and 12% opposed it (all wanted it lower).

Both TPWD and LDWF data suggest that the current harvest regulation that allows no more than 5 catfish ≥ 20 inches does restrict a significant proportion of the passive gear harvest. Establishing a no minimum length limit and a 50-fish daily bag limit in any combination for channel and blue catfish, of which no more than five ≥ 30 inches may be retained, should provide harvest opportunities that Toledo Bend Reservoir anglers desire and have no detrimental effects on the blue catfish population. Blue catfish abundance is high, recruitment is stable, and annual population exploitation is likely low. In addition, other agencies have implemented similar regulations for blue catfish. For example, Oklahoma allows one fish > 30 inches statewide, and at select waters, Virginia and North Carolina allow one fish > 32 inches, Alabama and Tennessee allow 1 fish > 34 inches, and South Carolina allows one fish > 36 inches. Furthermore, passive gear anglers strongly preferred the “no more than five ≥ 30 inches” regulation over the proposed alternative of “no more than 10 ≥ 20 inches.” The 30-inch length is also within the range of reported inflection between slow and fast growth (Graham 1999), and this proposed regulation would reduce harvest on those faster growing fish.

Catfishes are one of the few species groups that can potentially satisfy multiple angler motivations, including the provision of quality table fare and trophy fishing opportunities. We believe our proposed length limit adjustment will serve our diverse catfish angler

constituents by allowing ample harvest opportunities while providing added protection for large, recreationally-valuable blue catfish. Increasing the length limit from 20 to 30 inches should have little effect on blue catfish populations at Caddo Lake (i.e., fish > 20 inches are abundant) and the lower Sabine River (i.e., the blue catfish fishery is minor), and no effect on the channel catfish population at all border waters because fish $\geq$ 20 inches are uncommon.

Literature Cited

Graham, K. 1999. A review of the biology and management of blue catfish. Pages 37-49 *in* Irwin et al., editors. Catfish 2000: proceedings of the international ictalurid symposium. American Fisheries Society, Symposium 24, Bethesda, Maryland.

Hunt, K. M., C. P. Hutt, J. W. Schlechte, and D. L. Buckmeier. 2012. Demographics, attitudes, preferences, and satisfaction of Texas freshwater catfish anglers. Proceedings of the Annual Conference Southeastern Association of Fish and Wildlife Agencies 64:94-101.

Hutt, C. P., K. M. Hunt, J. W. Schlechte, and D. L. Buckmeier. 2013. Effects of catfish angler catch-related attitudes on fishing trip preferences. North American Journal of Fisheries Management 33:965-976.

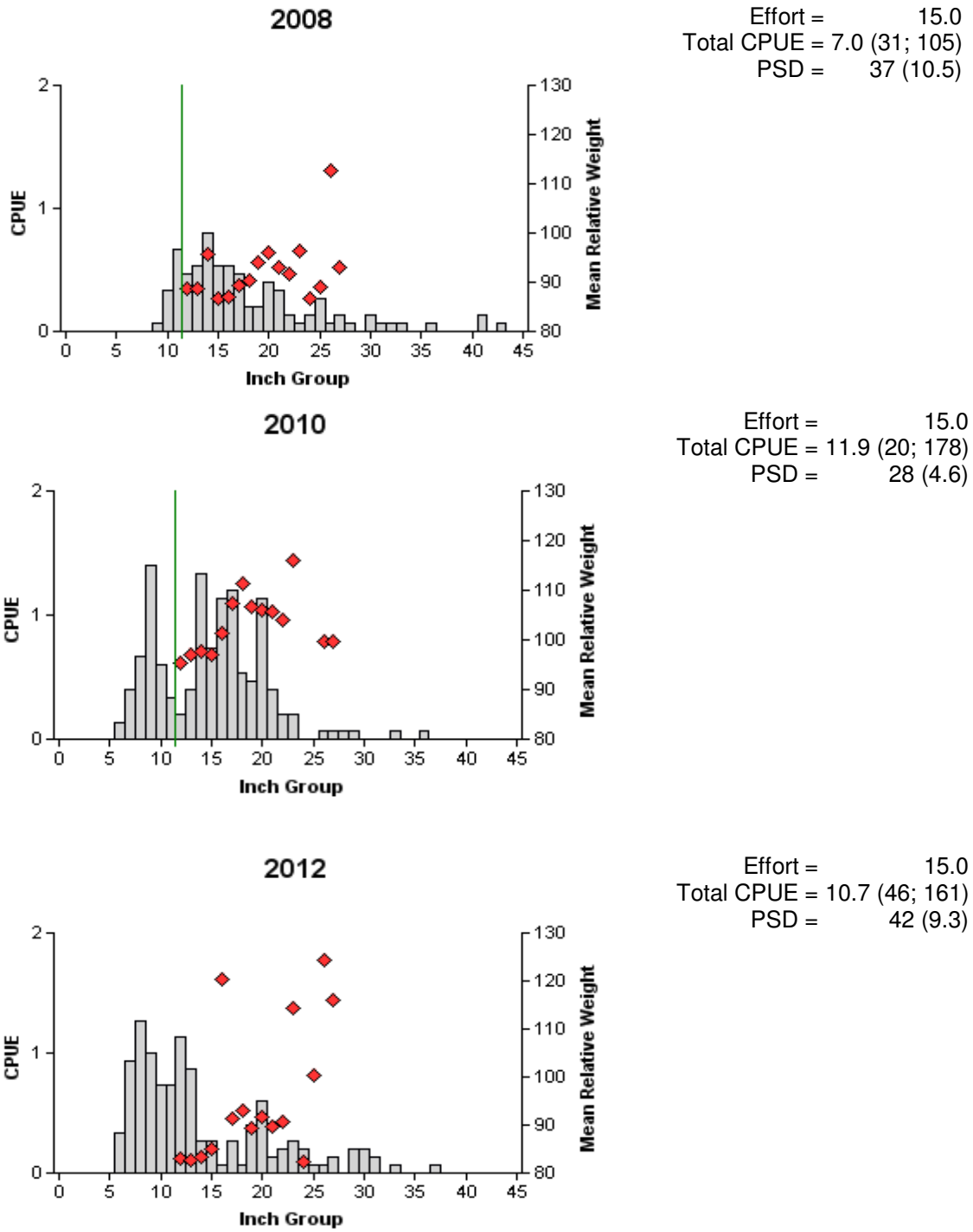

Figure 1. Number of blue catfish caught per net night (CPUE, bars), mean relative weight (diamonds), and population indices (RSE and N for CPUE and SE for size structure are in parentheses) for TPWD winter gill net surveys, Toledo Bend Reservoir, Texas, 2008, 2010, and 2012. Vertical lines indicate minimum length limit.

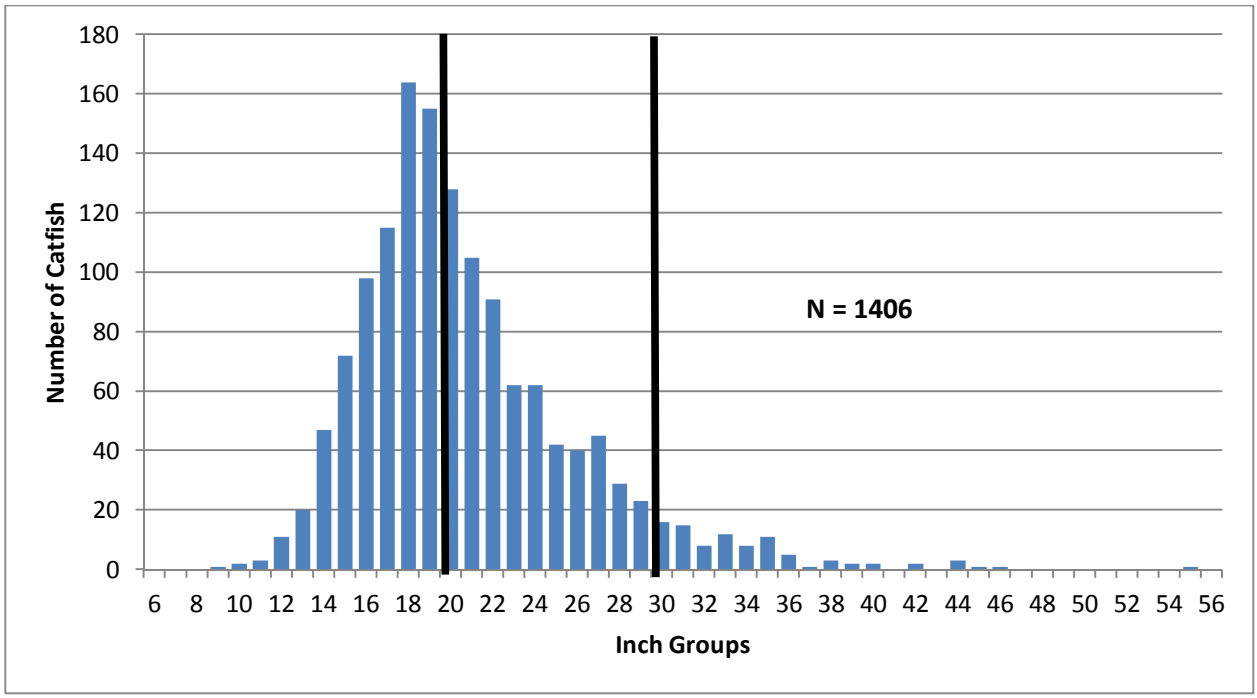

Figure 2. The length distribution of blue catfish taken from LDWF gill nets (2.5, 3.0, 3.5 and 4.0 inch bar mesh) on Toledo Bend Reservoir, Louisiana from December 2009 – January 2013. Lines delineate the proportion of 20 – 30 inch fish in the population.

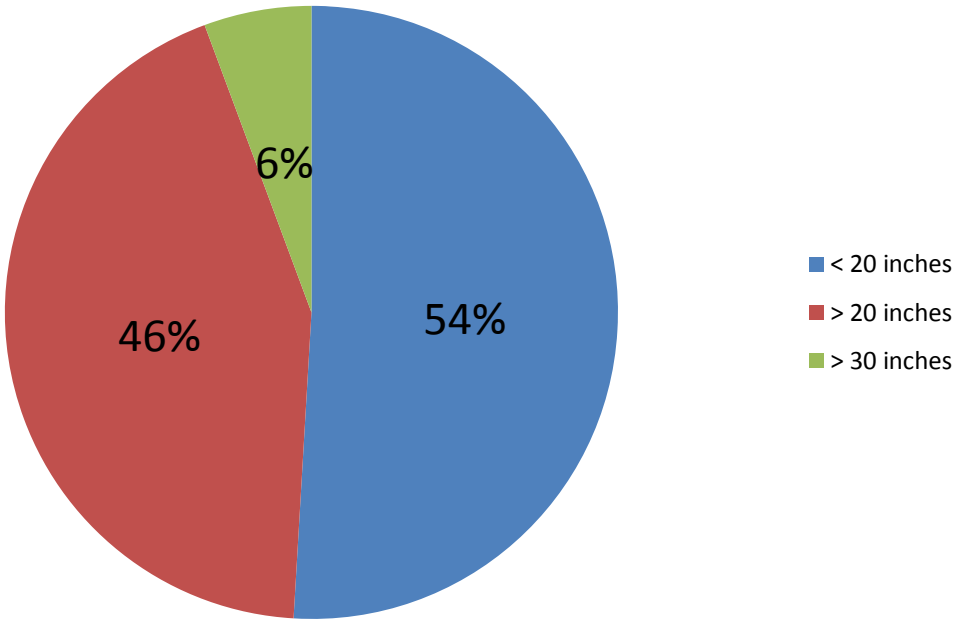

Figure 3. Size distribution of blue catfish catch from TPWD survey of passive gear anglers at Toledo Bend Reservoir, Texas, April and May, 2012 and 2013.

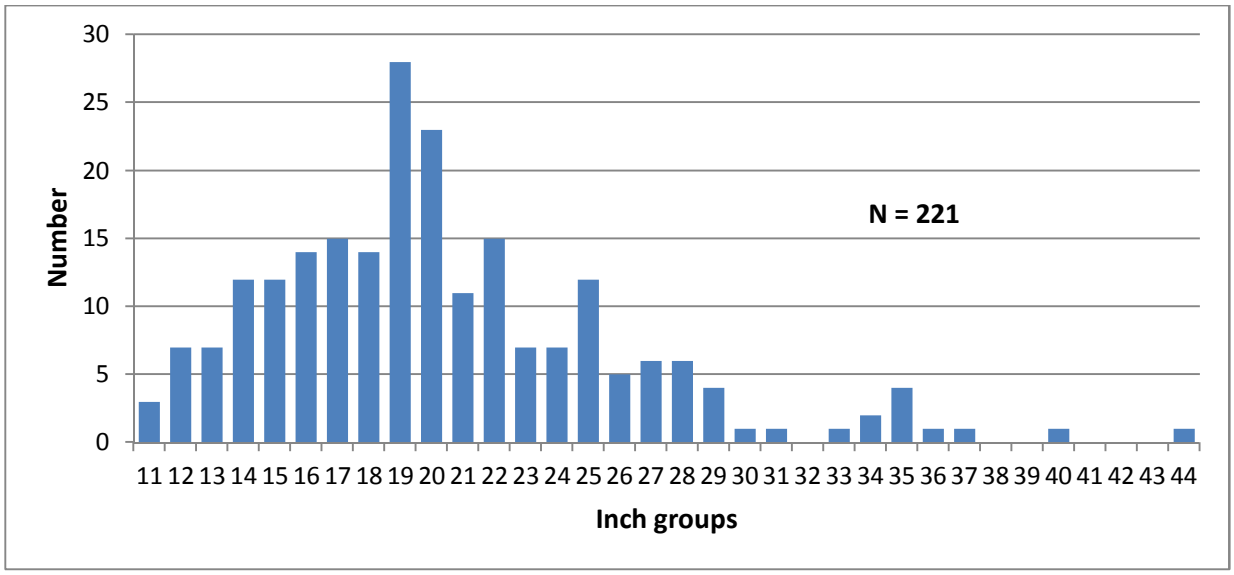

Figure 4. The length distribution of blue catfish taken with LDWF trotlines on Toledo Bend Reservoir from October 2012 – January 2013.

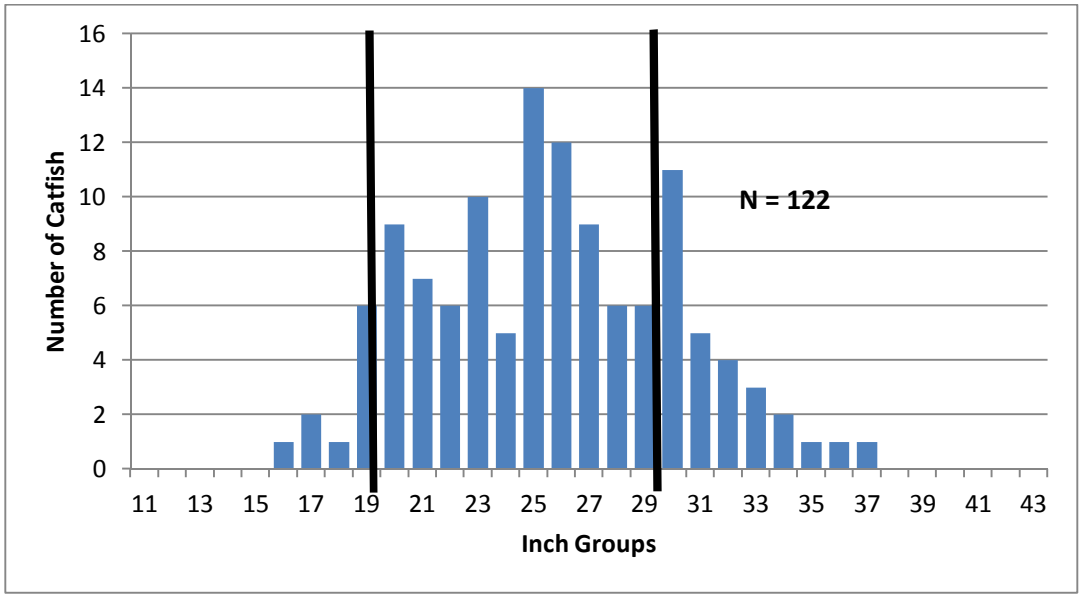

Figure 5. The length distribution of blue catfish taken from LDWF gill nets (2.5, 3.0, 3.5 and 4.0 inch bar mesh) on Caddo Lake, Louisiana from December 2009 – January 2013. Lines delineate the proportion of 20 – 30 inch fish in the population.

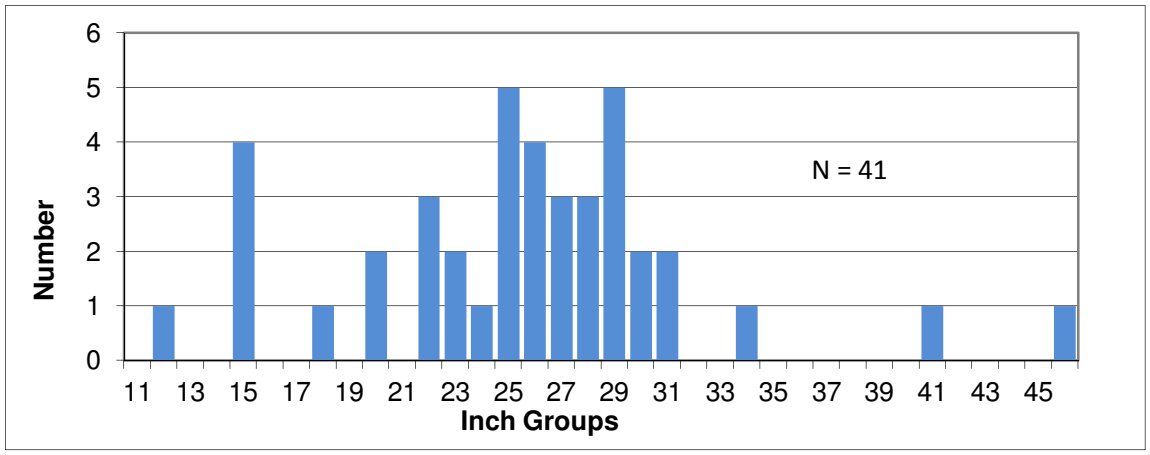

Figure 6. The length distribution of blue catfish taken with LDWF trotlines on Caddo Lake from December 2012 – January 2013.

Appendix A – Passive Gear Catfish Angler Survey

Texas Parks and Wildlife Department
Inland Fisheries Division

On September 1, 2011, channel catfish and blue catfish harvest regulations at Toledo Bend Reservoir were standardized for both the Texas and Louisiana portions of the reservoir. Texas Parks and Wildlife Department values your opinions relative to this regulation change. Please take a few minutes to answer the following nine questions.

1. How many times did you fish for catfish at Toledo Bend Reservoir during the past 12 months? _____ times

2. Relative to the catfishing trips above, how many trips were with passive gear (e.g., trotlines, limblines, juglines, or noodles) or rod-and-reel?

   Passive gear____trips Rod-and-reel _____trips Used both types_____trips

   Note: Total trips should match that from Question 1.

3. On average, how many hooks do you fish per person each day? _____hooks

4. What is most important to you when targeting catfish at Toledo Bend (select one):

   _____ The chance to catch large numbers of catfish regardless of their size

   _____ The chance to catch a trophy catfish

   _____ No preference

The current regulation for channel and blue catfish at Toledo Bend Reservoir is:

No minimum length limit, 50 fish daily bag limit in any combination, but only 5 blue or channel catfish > 20 inches may be retained each day

Below are average blue catfish weights at provided lengths:
20 inches = 3 pounds
25 inches = 7 pounds
30 inches = 13 pounds
35 inches = 22 pounds
40 inches = 34 pounds

5. Do you typically harvest all legal channel and blue catfish up to your daily bag limit, or do you voluntarily release some fish?

   Harvest all Release fish < _____inches Release fish > _____inches

6. Do you support or oppose the **"only 5 blue or channel catfish > 20 inches"** portion of the regulation?

   Support Neutral Oppose

   If you oppose, select which option you would prefer (select just one):

   A) Keep the 5-fish bag limit, but increase the length to 30 inches

   B) Keep the 20-inch length limit, but increase the bag limit above 20 inches to 10 fish.

7. Do you support or oppose the current **"50 fish daily bag"** portion of the regulation?

   Support Neutral Oppose

   If you oppose, would you prefer a higher or lower bag limit?

   Higher Lower

8. What is the zip code for your home town?_____